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of
KENTUCKY

COLLEGE
of
AGRICULTURE

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The College of Agriculture

State University of Kentucky



FRONT VIEW OF CAMPUS

Announcement

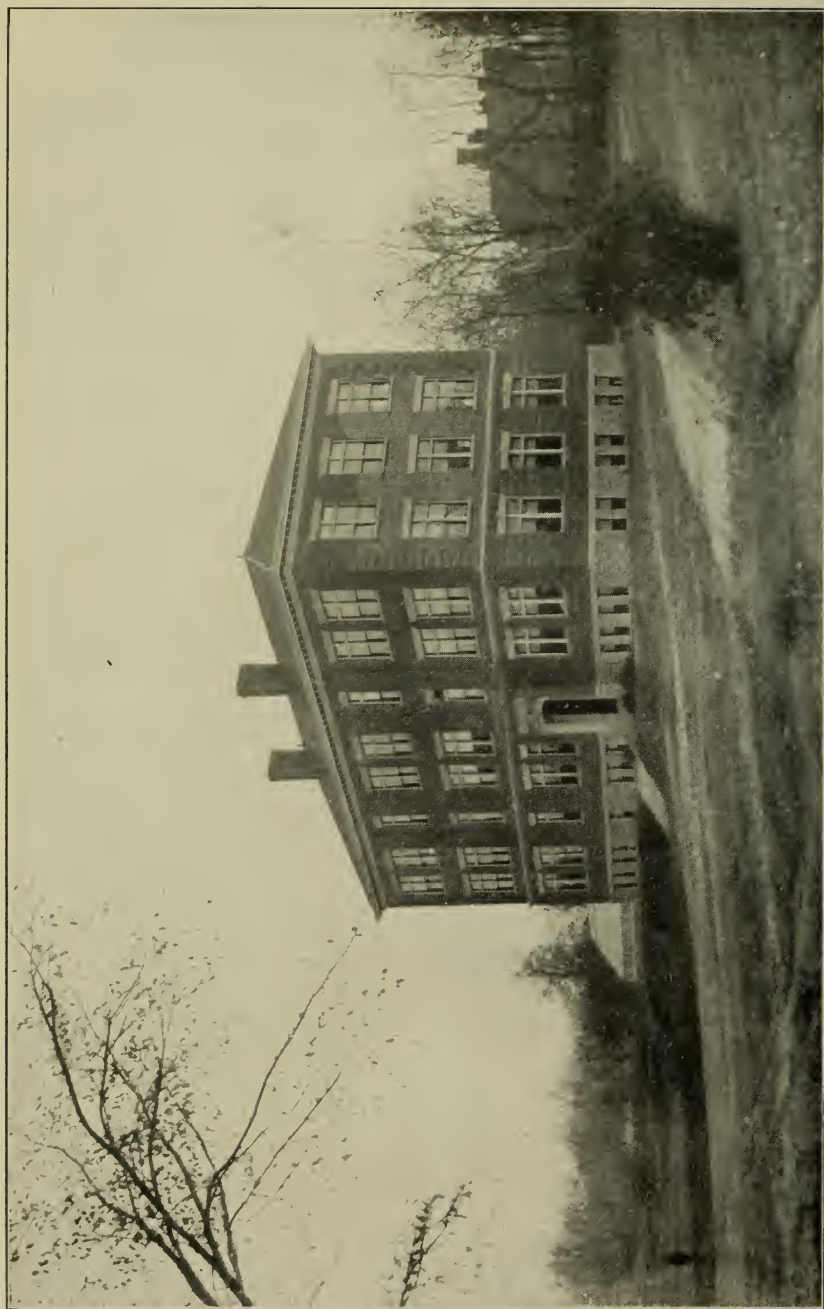
of the

Short Course in Agriculture

For the Ten Weeks Beginning January 5, 1909
and Ending March 12, 1909

PUBLISHED BY THE STATE UNIVERSITY
OF KENTUCKY, LEXINGTON

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AGRICULTURAL HALL (South Wing)

THE COLLEGE OF AGRICULTURE

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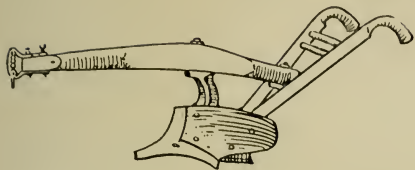
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Kentucky University

THE AGRICULTURAL COURSES



Young men considering an agricultural college course in Kentucky have presented to them three distinct lines of agricultural study, from which a selection may be made in accordance with the student's previous educational

training; the time and money at his command for purposes of education; and the objects which he has in view.

The Four Years' Course requires for entrance a thoro preparation in a good high school. From many of the Kentucky high schools a certificate of graduation will be accepted in lieu of an entrance examination. If not a graduate, the applicant for admission is required to pass a satisfactory examination. This full course is of the same rank as other academic courses in the University and is designed for those who desire to take a thoro college training, combining liberal culture with specialization in the studies directly related to agricultural pursuits. The graduates of this course receive a collegiate degree and are fitted for a successful and influential career if they return to the farm, or to take positions open to them as teachers, in experiment stations or the U. S. Department of Agriculture, as managers of farms, dairy plants, etc., or in other fields requiring expert acquaintance with agricultural problems. Many of the positions are exceedingly attractive to the young man of strong mental capacity who has had the practical training of the home farm supplemented by the scientific scholarship that the agricultural college affords. The demand for graduates has for years past exceeded our ability to supply them, and practically all of them are in responsible positions with large opportunities for future advancement.

The Two Years' Course is arranged for young men who cannot take the full four years' course, but who wish to secure as much of the agricultural instruction as possible in a briefer period. Applicants for admission to this course must have had a good training in English grammar and composition, Arithmetic, United States History, Elementary Algebra and Plane Geometry, and must be at least eighteen years of age.

The course is varied in some degree to meet the individual preparation and aims of each student. In general, it consists mainly of the agricultural studies offered by the college, together with English and such additional mathematics and elementary science as may be necessary for the ready comprehension of the technical agricultural subjects.

The two years' course does not lead to a degree, and students are advised, if possible, to take the full four years' course; nevertheless, to the earnest student who is desirous of giving special attention to the practical side of agricultural education, the course will yield valuable returns.

The Short Winter Course is treated at length in this pamphlet.

THE SHORT WINTER COURSE IN AGRICULTURE

THE great educational movement seen during recent years in the interests of the farming communities of our country is one of the most significant of our times. It is clearly recognized that this movement has resulted largely from the establishment of the Agricultural and Mechanical, or "Land-grant" colleges and the Experiment Stations.

These institutions have engaged in investigations which have enlarged our knowledge of many agricultural problems, and have also been largely instrumental in systematizing and publishing the great body of facts resulting from these investigations, and from the experiences of generations of practical farmers. The agricultural colleges are now making every effort to place this accumulated knowledge at the service of the practical farmer.

It is coming to be seen by all intelligent people that success in farming, as in any other occupation, can come only as a result of clear, definite knowledge of the subject. There are many ways of gaining such knowledge; it may come partly thru long personal experience, often a very costly way of getting it; much of it may be acquired thru constant reading of agricultural papers, and attendance upon farmers' institutes, when these are combined with careful observation at home.

It is our belief, endorsed by many who have given it a trial, that a young man can get much of this training, and acquaintance with the facts of agricultural science, more easily and with less expense, at an agricultural college, than by his experience on the farm alone.

OBJECTS OF THE WINTER COURSE

THIS course is designed to meet the needs of young men, farmers and farmers' sons, who cannot afford the time or money required to take the full agricultural or other courses in college, but who yet wish to secure a more thoro preparation for their life work. It emphasizes the practical and business aspects of farming as a means of livelihood.

It is believed that there are many young men upon Kentucky farms who would receive great and lasting benefit from the instruction and practice that is given in such a course, not simply because of the practical information acquired, altho that would well repay the time and money spent for it, but also because they would more fully realize that a knowledge of the principles that underlie the familiar affairs of farm life, is of the greatest importance in the best farm management.

Many a farm boy who has had access to farm papers has already gotten a glimpse of greater possibilities of the old home farm, and wants to learn how to develop these possibilities to the fullest extent, and so make farming his life work.

It is recognized that the time that farmers' sons can devote exclusively to study is often very limited, so it is designed in the ten weeks of this

course to give instruction that shall be of the most helpful and practical kind possible.

In order to meet the desires of as large a number as possible and to encourage the growing interest in Dairy Husbandry, the work of the coming Winter is arranged along two somewhat distinct lines, including a course in **General Agriculture**, and a second course in which **Dairy Husbandry** will be the major study. These two courses will have many subjects in common, but the dairy student will be given a much larger amount of practical instruction in the dairy laboratory. The student pursuing this dairy course will receive instruction in soils and field crops in the same classes with the other Short Course students, and will also enter classes in live stock judging, in which special emphasis will be laid upon the judging and selection of dairy cattle. They will also pursue a course in live stock breeding and the study of the diseases of domestic animals.

EQUIPMENT

Agricultural Hall is a beautiful new building, upon the southeast corner of the campus, near Limestone Street, the erection of which was authorized by the Board of Trustees at its meeting in December, 1906.



AGRICULTURAL READING ROOM

It is constructed of pressed brick with Bedford stone trimmings, is forty-five by a hundred feet in size, and three stories in height above a roomy basement, and is covered with a tile roof. The basement is occupied by a large laboratory for farm machinery, another for general farm mechanics; a seed room, plant propagating room, boiler room, etc. The first floor contains the office of the dean, and department library, the general and advanced plant laboratories, and horticultural lecture room;

the second floor, the office and lecture room for the professors of animal husbandry and agriculture, the general agricultural laboratory and the soil physics laboratory. A beautiful room upon this floor, provided with fireplace and attractive mission furnishings, affords a pleasant reading room and a meeting place for agricultural societies. All the best agricultural periodicals are kept on file in this room and are freely available to students.

The third floor contains a photographic laboratory with dark rooms; an agricultural museum and drawing room, and an assembly room for meetings of the Grange and other farmers' organizations.

While this building is large in itself, it is designed as a wing with a view to extensive additions of a central main building and an opposite corresponding wing in the future as the expansion of agricultural education in Kentucky may require.

Other Facilities for Study include several greenhouses, giving an opportunity for the continuous study of living plants thruout the winter months, and for experiment work in plant physiology. In the various features of college instruction the extensive equipment of the Experiment Station farm, a few minutes' walk from the college campus, incidentally affords large opportunities for supplementary and illustrative instruction. A large herd of Jersey cattle, housed in a commodious and well-equipped dairy barn; a new piggery stocked with Berkshire swine; extensive and varied plots of field, forage and garden crops, with numerous other experiment studies in progress all the time, afford stimulating and interesting subjects for inquiry thruout a student's course.

The extensive live stock and other agricultural interests of the unrivalled Bluegrass country immediately surrounding Lexington may fairly be considered a vastly enlarged field of laboratory inquiry for all students of agriculture. Frequent visits are made to the various farms in this vicinity, and their owners and managers have manifested a most cordial hospitality and a willing co-operation in promoting the cause of agricultural education in the institution.

ADMISSION

As already explained, the Short Course aims primarily to aid the young man upon the business side of farming, not especially in the direction of academic scholarship; hence there are no examinations for admission as in the longer courses. The applicant, however, must be at least seventeen years of age, and it is essential that he should have had a good common school education, and the more thoro and extensive his general education has been, the more benefit he will derive from the course. It is particularly important that he should have had good training in English and Arithmetic, as short course students are often seriously handicapped by their deficiencies in these subjects. Those planning to take a winter course are advised to review these subjects before coming to Lexington. It is desirable also that they make application as early as possible, in order that an approximate estimate may be made of the probable number in attendance.

On Arrival in Lexington Plan to get into the city sometime on Monday, January 4th, preferably in the early part of the day. The University is located on South Limestone Street, about three-fourths of a mile from the center of the city, upon the street car line. If you have made no previous arrangements with friends regarding room and board, come directly to the office of the Dean on the first floor of the Agricultural Building, which will be open on that day from 8 A. M. to 7 P. M. for registration. Here there will be a list of the rooms and boarding places which are available, and an assistant will be detailed to help you find satisfactory quarters. The regular class work will begin on the following day, January 5th.

EXPENSES

Tuition is free to residents of Kentucky. Non-residents pay a nominal fee of \$5 for matriculation.

Comfortable rooms can be obtained at 75 cents to \$1.50 per week when two occupy a room together, or at \$1 to \$2 when one person occupies a room alone. Excellent table board can be secured near the college at rates ranging from \$2.25 to \$3 per week.

Students taking the special dairy course will be required to provide themselves with a white cotton suit, the cost being about \$2.

An allowance of \$6 to \$10 should be made for books and various incidental expenses. With economy, therefore, a student can keep his expenses for the entire course of ten weeks down to \$40, plus the railroad fare from his home to Lexington and return.

While in the longer courses it is often possible for a student to find employment with which to pay some part of his expenses, this should not be expected in the ten weeks' course. The season of the year is unfavorable, and the time is too short to make it practicable.

SOCIAL AND RELIGIOUS ADVANTAGES

The students of the College of Agriculture have organized an agricultural society, which meets at regular intervals, for the discussion of live agricultural topics and for social intercourse. The students of the Short Winter Course are earnestly invited by the society to unite with the organization and participate in their meetings.

The order of the Grange also has a local organization here with headquarters in the Agricultural Building, to which many of the college and experiment station officers and agricultural students belong, and any short course student bringing proper credentials will be welcomed to membership.

The Young Men's Christian Association has an organization at the college, with a pleasant room for reading, games, and social intercourse in Alumni Hall, and holds religious meetings during the week. In this hall also the literary societies have weekly meetings, and will welcome new men.

In the city are Baptist, Catholic, Christian, Episcopal, Jewish, Methodist, and Presbyterian churches, which welcome all students to their services, and the pastors of which conduct many of the daily chapel exercises at the college.

HOW INSTRUCTION IS GIVEN

Instruction in the winter course is given by lectures, by practical exercises in the various agricultural operations which can be conducted in winter, and by frequent class visits to stock farms and to other points of special interest.

The lectures are given mostly by the regular instructors of the department, and an effort is made to give the lectures in as plain and practical a form as possible. Whenever feasible they are illustrated by materials of which they treat, and in some cases by lantern slides, the lecture rooms being provided with first class lantern equipments. Lectures and demonstrations are given from time to time by the officers of the experiment station and by others. The greenhouses, barns, and the various laboratories are used as fully as possible for practical illustrative purposes.

SPECIAL LECTURE COURSE

In addition to the work offered by the regular corps of instructors, arrangements have been made for securing a course of weekly lectures to be given by men of eminence in the various fields of practical agriculture. While the list of speakers is not yet complete, it will include men noted for their successful experience in general agriculture, horticulture, and the various lines of animal husbandry, and will therefore add very greatly to the interest and practical benefits of the Short Course.

The lectures will be given in the Assembly Room upon the third floor and will probably occur each Friday at 3:30 o'clock.

OUTLINE OF SUBJECTS OF SHORT COURSE

I. BOTANY. (Plant Life on the Farm)

PROFESSOR MATHEWS AND PROFESSOR GILBERT.



In the study of plant life the excellent equipment of the botanical laboratories will be placed at the service of the students of the short course. By the aid of simple and compound microscopes the pupils will study the structure of seeds, roots, stems, leaves, flowers and fruits. The function of each of these organs of the plant will be discussed, and in some cases experiments will be undertaken to demonstrate certain physiological principles of plant life. Those topics which are of special importance to farmers will receive the fullest consideration, such as germination of seeds, how plants feed, the work of roots and leaves, the office of the inner and outer bark, movements of the sap, the importance of the blossom, cross-fertilization, etc. Some attention will also be given to those low forms of plant life, the fungi, which are the cause of many of the diseases affecting farm and garden crops.

II. AGRICULTURE

PROFESSOR HOOPER AND PROFESSOR ROBERTS.

Soils. The origin and preservation of soils; the sources of soil fertility; the function of bacterial life in the soil; the conservation of soil moisture by soil mulches and in other ways; surface and tile drainage; green manuring. The laboratory studies of soils will be supplemented by observations on the Experiment Station farms and elsewhere. The subject of

Commercial Fertilizers will be given a somewhat extended discussion in this connection.

Farm Machinery and Implements of Tillage will be given attention in the short course. The implements used for different purposes, and those that in particular should be used more frequently in Kentucky, are studied in reference to their construction, care and draft. Some of the more complicated ones will be taken apart and assembled by the students.

Field Crops. Special attention will be given to a study of the staple crops of our own state, including corn, wheat, hemp, tobacco, and the grasses and other forage crops adapted to Kentucky. Considerable time is spent in judging samples of the various grains, especially in the case of corn, of which many ears of the best varieties are studied with reference to the ideal form, and in connection with germination tests.



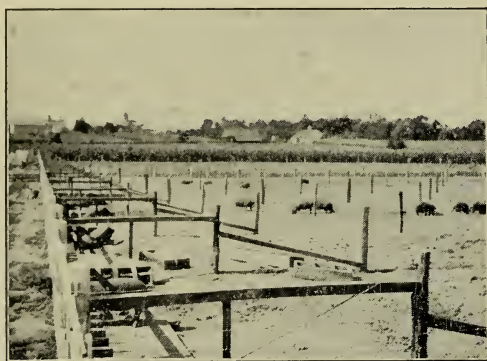
LECTURE ROOM. SOIL PHYSICS

III. ANIMAL HUSBANDRY (General)

PROFESSOR HOOPER AND MR. NICHOLLS.



Stock Judging. In starting upon this course the students are made familiar with the various market types of horses, cattle, sheep, and swine. The different points of excellence of a perfect animal are considered, followed by a consideration of the adaptation of the different breeds (whether already produced in Kentucky or not) to our conditions, with a discussion of their relative points of merit. In carrying out this study, a carefully prepared score card is used to develop the student's powers of observation and to fix in his mind the best types. Frequent visits are made to the numerous stock farms near Lexington, where the animals are scored, and the methods of management closely studied.



PIG FEEDING LOTS. EXPERIMENT FARM

of Lexington, are used as illustrative material. The course also in-

Feeding. This course embraces a study of the theory and practice of animal nutrition; the composition of the animal body and of feeding stuffs; the relative economy of feeds at market prices, and the compounding of rations for horses, beef and dairy cattle, sheep and swine. The feeding operations at the Experiment Station and at farms in the vicinity



EXCURSION TO STOCK FARM. STUDENTS JUDGING HORSES

cludes a brief study of the anatomy and physiology of the digestive system of the various domestic animals.

Breeding of Live Stock. The basic principles of breeding animals and the methods to be employed in improving the breeding stock of this state; special problems, such as the influence of environment, of fecundity, of previous impregnations, the possibility of controlling sex of offspring, etc.,—are considered in their relations to the operations of the stock breeder.

Diseases of Live Stock. The common ailments of farm animals; their cause, treatment, and prevention. Special attention is given to contagious abortion, anthrax, hog cholera, tuberculosis, nasal grub and stomach worms of sheep. A brief study is also made of the anatomy of the horse's foot and the proper methods of shoeing.



LABORATORY. STUDENTS JUDGING CORN

IV. FARM DAIRYING

PROFESSOR HOOPER AND MR. NICHOLLS.

THE course in dairying is designed to acquaint the students with the practical details which are of importance to every one who operates a dairy farm or a creamery.

The course will include lectures and practical laboratory instruction in the judging and selection of dairy cattle; the compounding of rations for dairy cows; the adaption of dairy barns to the production of sanitary milk and the separation of cream by the use of the various gravity and centrifugal systems. The student will be made familiar thru frequent practice with the purpose of the Babcock milk tester and with the proper methods of ripening cream for churning. The class will be divided into

small sections in order that each may participate in the churning of cream and in the detailed study of the production of first class butter. The dairy laboratory has recently been added to the facilities of the College of Agriculture, and practical instruction will be given in this building and in part at the dairy rooms of the Experiment Station farm.

During the course visits will be made to the various dairy farms located near Lexington, and careful inspection will be made of the creameries in this part of the state.

Students pursuing the special dairy course will be expected to provide themselves with working suits of white duck as commonly used in the best dairies and creameries.

V. HORTICULTURE

PROFESSOR MATHEWS, PROFESSOR GILBERT AND MR. MOORE.



In the horticultural instruction the time is divided between lectures and practice in the various horticultural operations. In the lectures a brief review is given of the principles of plant structure and growth upon which are based the various horticultural practices. Further attention is then given to the various subdivisions of the subject, as follows:—

(a) Pomology or Fruit Growing.

Propagation of trees, vines and berry plants by seeds, cuttings, layering, budding, grafting etc,

Soils, Location and Planting of fruits are considered with reference to character of soil; the relative value of various slopes and elevations, water and atmospheric drainage; protection from frosts and freezes, and market and transportation facilities.

Tillage of fruit lands in preparation for planting; cultivation of orchards, grapes and berry plantations; cropping orchards; cover crops; mulching and other methods of soil management relating to the conservation of soil moisture, the ripening the wood, inducing growth, or promoting fruitfulness.

Pruning and General Management of fruit trees, vines, etc., at the time of planting and thruout their later development; the top-grafting of mature trees. Several lessons are given upon the various methods of pruning and training grapes.

Spraying of tree and other fruits for the purpose of combating insect and fungus pests is given special attention. Students are given individual practice in handling the spray pump, and in compounding and applying such preparations as the Bordeaux mixture, kerosene or coal-oil emulsion, etc.

Harvesting, Storing and Marketing of the various fruits grown in Kentucky.

Varieties adapted to soils and climatic conditions in our state, and considered further with reference to their various uses at home or for near or distant markets.

(b) Vegetable Growing and Market Gardening. On account of the limited time given to the short course, these subjects are treated rather

briefly, and mainly with reference to the methods and arrangements most suitable for the farmer's home garden.

(c) **Planting Home Grounds.** A few lectures are given upon laying out home grounds with reference to drives and walks; planning, planting, and subsequent management of windbreaks, shade trees, shrubs, and other ornamental plants, useful in adding comfort and beauty to the farm home as well as adding to its sale value.

VI. ECONOMIC ENTOMOLOGY. (*Insect Pests*)

MISS MCCANN.



For the ten weeks' class a special course of instruction is arranged, the object of which is to familiarize the student with a few of the important facts and a little of the language of general entomology, without which he can not understand with accuracy and confidence the statements made by entomologists concerning their work.

The first two weeks will be devoted to the study of the common great divisions of insects,—the more important orders, as they are called,—in which the principal injurious kinds are found, followed with the study of insect transformations,—the changes which insects undergo in completing their life-histories. The study of the life-history of some of the typical injurious species will then be made, and the remainder of the time will be given to the consideration of the principal insect injuries to which crops are liable, and to the use of insecticides. No text-book is required.

VII. ROAD CONSTRUCTION AND MAINTENANCE

PROFESSOR ROWE.

Lectures upon Highways and Highway Construction. Road Material, Macadam Roads, Sand Clay Roads, Gravel Roads, Specifications for Roads, Cement Construction, etc.



SQUAD OF STUDENTS MAKING CEMENT POSTS

VIII. FARM LAW

JUDGE LAFFERTY.

The course of five or six lectures will be devoted to the careful consideration of those laws which are of special interest in the common experience of the farmer, including under contracts, the legal requirements of buying and selling; real estate and personalty; leases; bills, notes and checks; roads and pass-ways; taxation; principles of sales; relation of the farmer with the common carriers; making of wills; relations of landlord and tenant and the legal aspects of trespass.

IX. WEATHER FORECASTING AS RELATED TO FARM PRACTICE

MR. NOYES.

The U. S. Weather Bureau has a fully equipped station in the Main Building of the University, and a course of lectures will be given by the Chief Observer, relating to such subjects as the use of the weather map and the interpretation of weather forecasts; personal observations upon frosts, rainfall, and other weather conditions, upon the part of the individual farmer.

X. FARM ACCOUNTS AND BUSINESS METHODS

PROFESSOR MATHEWS AND MR. NICHOLLS.

A simple system of farm accounts will be presented in a few practical lessons, and the importance of various business methods will be discussed.



NORTH DRIVE, UNIVERSITY CAMPUS

SCHEDULE OF STUDIES FOR THE FOUR YEARS' COURSE IN AGRICULTURE

Unless otherwise indicated, subjects given 3 hours per week are upon Monday, Wednesday, and Friday, and those given 2 hours per week are upon Tuesday and Thursday.

Freshman Year.	Hours. Fall term.	Hours. Winter term.	Hours. Spring.
English,	3	3	3
Mathematics	5	5	5
German,	3	2 W. F.	2 W. F.
Chemistry Lectures,	..	4 M. T. W. F.	3
Chemistry Laboratory,	..	3 M. F. S.	3 M. F. S.
Freehand Drawing,	2	2	..
Elementary Botany,	..	..	3 T. W. Th.
Physiology,	3	..	..
Total,	16	19	19
Sophomore.	Fall.	Winter.	Spring.
Zoology,	2	2	..
Zoology Laboratory,	3	3	..
Embryology,	..	..	3 M. T. Th.
Physics,	3	2	2
Botany Lectures,	1	2	2
Botany Laboratory,	3	3	2
Soil Physics,	3	..	..
Geology,	2	2	..
Agronomy-Cereals,	..	3	..
Plant Culture,	..	2	..
Fruit Culture,	..	..	2
Agronomy-Forage Crops,	..	..	2 W. Th.
Surveying,	..	..	2 W. F.
Total,	17	19	15
Junior.	Fall.	Winter.	Spring.
Study of Breeds,	3	2	..
Do. Laboratory,	1	..	..
Animal Nutrition,	..	3	3
Farm Equipment,	3	..	..
Farm Equipment, Lab.	1	..	..
Farm Crops. (Advanced)	..	..	2
Veterinary Science,	..	4	..
Plant Histology,	3	..	..
Plant Physiology & Pathology	..	..	4
Entomology,	2	3	2
Pomology,	2	..	..
History,	2	2	2
Economics,	2	2	2
Dairying,	..	..	3
Total,	19	16	18
Senior.	Fall.	Winter.	Spring.
Principles of Breeding,	2	..	..
Do. Laboratory,	1	..	..
Logic,	3	..	..
Metaphysics,	..	3	..
Ethics,	..	..	3

The remainder of the Senior hours are elective and are arranged at the beginning of the year by conference with the Dean.

SCHEDULE OF STUDIES FOR THE TWO YEARS' AGRICULTURAL COURSE

First Year.	Fall.	Winter.	Spring.
Agronomy, Soils,	3	..	..
Zoology,	2	2	..
English,	3	3	3
Drawing,	2	..	..
Farm Equipment,	4	..	..
Physiology,	3	..	..
Agronomy, Cereals,	..	3	..
Chemistry,	..	7	6
Plant Culture,	..	2	..
Agronomy, Forage Crops,	..	..	2
Fruit Culture,	..	..	2
Botany,	..	..	3
	—	—	—
Total,	17	17	16

Second Year.	Fall.	Winter.	Spring.
Study of Breeds,	4	2	..
Animal Nutrition,	..	3	3
Live Stock Management,	..	..	3
Veterinary Science,	..	4	..
Entomology,	2	3	2
Agronomy,	2	3	..
Economics,	2	2	2
Botany,	4	..	..
Pomology,	2	..	..
Road Making,	..	..	2
Dairying,	..	..	3
Home Grounds,	..	..	2
	—	—	—
Total,	16	17	17

OPPORTUNITIES FOR AGRICULTURAL COLLEGE GRADUATES

THE fields of work open to the agricultural college graduate are numerous. He may take up college or experiment station work; the United States Department of Agriculture is employing hundreds of trained men in its many lines of work; packing houses, fertilizer and farm machinery companies are calling for agricultural graduates; several states have established pure food, fertilizer and nursery inspection laws, and trained men are needed to fill the positions made necessary by these laws. Agricultural papers feel the need of special agricultural training for the members of their editorial staffs; the institute worker is better qualified with such training, and the broad field of productive agriculture needs all the special training which it is possible to get. This last field is attracting many of our present graduates, and no doubt will command an increasing number in the future, as the specialties which the student may profitably take up on his own farm are rapidly increasing in number.

Positions as managers of large estates, or as superintendents of the various departments of such estates, are demanding men who have, in addition to the practical experience on the farm, the scientific training which a good agricultural course is prepared to give.

STATE UNIVERSITY ORGANIZATION

The State University, as at present organized, comprises three Colleges and three Schools:

1. The College of Agriculture.
2. The College of Arts and Science.
3. The College of Law.
4. The School of Civil Engineering.
5. The School of Mechanical and Electrical Engineering.
6. The School of Mining Engineering.

The studies which are comprised within these colleges and schools are distributed into eighteen departments, each in charge of a responsible head, the heads constituting the Faculty. There are thirty additional instructors in these various departments, making a total of forty-eight in the entire corps of teachers.

Each county in the state, is, by law, entitled to have four representatives constantly in the University, free of tuition, one student being appointed each year by the County Superintendent on competitive examination.

County appointees also receive, upon certain conditions, their traveling expenses to and from the University, together with certain other privileges.

Persons desiring catalogs or further information concerning the general courses of the State University should address

PRESIDENT JAMES K. PATTERSON, LL. D.,

Lexington, Ky.

Inquiries relating to either of the courses of the College of Agriculture may be addressed to

PROF. C. W. MATHEWS, Dean,

Lexington, Ky.



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